



STATE OF DELAWARE  
**DEPARTMENT OF TRANSPORTATION**  
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NICOLE MAJESKI  
SECRETARY

**MEMORANDUM**

**TO:** Sireen Muhtaseb, New Castle Review Coordinator

**FROM:** Troy Brestel, Project Engineer 

**DATE:** April 16, 2021

**SUBJECT:** **3906 Kirkwood Highway (Protocol Tax Parcel #0803840449)  
Results of Traffic Operational Analysis (TOA)**

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We have reviewed the traffic operational analysis (TOA) for the proposed 3906 Kirkwood Highway commercial development, submitted by Traffic Planning and Design, Inc., on December 15, 2020. The analysis evaluates the traffic impacts of the proposed development, which is to be located on the south side of Kirkwood Highway (New Castle Road 11), east of Old Capital Trail (New Castle Road 12) in New Castle County. The proposed development would replace non-active office buildings.

The proposed development would consist of a 3,500 square foot high turnover sit-down restaurant, a 3,100 square foot fast-food restaurant with drive-through window, and 4,700 square feet of retail space. The site will utilize a rights-in / rights-out only access on Kirkwood Highway. Construction is expected to be complete in 2022.

There is one relevant DelDOT project in the area, which is the SR-2, Kirkwood Highway, SR-7 to Duncan Road Pedestrian Access Routes (PAR) Improvements project. The project aims to provide a continuous PAR along both sides of Kirkwood Highway from SR-7 to Duncan Road. Construction is currently underway and is anticipated to conclude in late 2021.

Based on our review, we find the following:

- 1) The intersection of Kirkwood Highway and Farrand Drive would operate better than level of service (LOS) D during the a.m. and p.m. peak hours for the existing, future no-build and future build conditions and would meet the LOS criteria listed in Chapter 2 of the Development Coordination Manual. More detail on the intersection LOS can be found in Table 2 on page 5 of this document.

Additionally, the existing storage length of the westbound left-turn lane on Kirkwood Highway at this intersection (approximately 480 feet) is sufficient to support the vehicle queues during the a.m. and p.m. peak hours for all conditions analyzed.

- 2) The proposed rights-in / rights-out site entrance on Kirkwood Highway would operate at lower than level of service (LOS) D during the a.m. peak hour for the future build conditions and would not meet the LOS criteria listed in Chapter 2 of the Development Coordination Manual. However, the sub-standard LOS is limited to the site entrance approach, and is a result of the heavy traffic along Kirkwood Highway. Additionally, the vehicle queue along the site entrance approach is minimal (less than 75 feet) for this scenario. Therefore, we are not requiring any measures to be taken to address the sub-standard LOS.

Please note that this analysis generally focuses on capacity and level of service issues. Other comments relating to bicycle, pedestrian, and frontage improvements may be made during the plan review process. Level of Service tables for the existing and future cases are attached with this memorandum.

TB:km

cc: Colm DeAscanis, CDA Engineering, Inc.  
Eric Ostimchuk, Traffic Planning and Design, Inc.  
Owen Robatino, New Castle County Department of Land Use  
Pamela Steinebach, Assistant Director, Project Development North, DOTS  
Todd Sammons, Assistant Director, Development Coordination  
T. William Brockenbrough, Jr., County Coordinator, Development Coordination  
Matthew Vincent, Canal District Public Works Engineer, Canal District  
Kerry Yost, Traffic Calming and Subdivision Relations Manager, Traffic, DOTS  
Wendy Polasko, Subdivision Engineer, Development Coordination  
Jun Xie, Subdivision Manager, Development Coordination  
Claudy Joinville, Project Engineer, Development Coordination  
Annamaria Furmato, Project Engineer, Development Coordination

Table 1  
PEAK HOUR LEVELS OF SERVICE (LOS)  
3906 Kirkwood Highway - TOA  
Prepared by Traffic Planning and Design, Inc.

Unsignalized Intersection <sup>1</sup>	LOS per TOA		LOS per DeDOT	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
Site Entrance / Kirkwood Highway 2022 with development				
Northbound Site Entrance	(N/A)	(N/A)	E (37.8)	C (21.8)

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<sup>1</sup> Numbers in parentheses are average seconds of delay per vehicle.

Table 2  
 PEAK HOUR LEVELS OF SERVICE (LOS)  
 3906 Kirkwood Highway - TOA  
 Prepared by Traffic Planning and Design, Inc.

<b>Signalized Intersection<sup>1</sup></b>	<b>LOS per TOA</b>		<b>LOS per DeIDOT</b>	
	<b>Weekday AM</b>	<b>Weekday PM</b>	<b>Weekday AM</b>	<b>Weekday PM</b>
Kirkwood Highway / Farrand Drive				
2020 Existing	B (19.1)	C (32.8)	B (15.4)	C (27.7)
2022 without development	B (19.2)	C (33.7)	B (15.5)	C (28.0)
2022 with development	B (19.7)	C (33.9)	B (17.8)	C (30.0)

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<sup>1</sup> Numbers in parentheses are average seconds of delay per vehicle.